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Notice of Allowability

Application No.

10/632,111

Examiner

Leo Boutsikaris

Applicant(s)

SEZERMAN ET AL.

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed on 2/1/06.
2. ☒ The allowed claim(s) is/are 1-9, 11-36, 53, 54 and 58-60.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/1/2006 has been entered.

Allowable Subject Matter

Claims 1-9, 11-36, 53-54, 58-60 are allowed.

Claims 1-9, 11-36, 53-54, 58-60 are allowable over the prior art of record for at least the reason that even though the prior art discloses a method of creating a zone of permanently altered refractive index characteristics inside a planar optical waveguide by focusing a femtosecond pulsed laser inside the waveguide in an area that covers the core of the waveguide as well as a portion of the cladding, the prior art fails to teach or reasonably suggest, regarding claims 1-9, 11-36, 53-54, 58, a method for creating an optical waveguiding device from an elongated generally optical fiber having at least one core and at least one cladding, wherein the optical waveguiding device exhibits controlled polarization sensitivity, and regarding claims 59-60, a method of creating an optical waveguiding device from an elongated generally annular optical fiber having at least one core and at least one cladding by creating a zone of permanently altered

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refractive index characteristics in the optical fiber, including the step of initially applying mechanical stress or an electric field to the optical fiber and then removing the mechanical stress or the electric field once the zone has been created, as set forth by the claimed combination.

Dugan (US 6,768,850, Fig. 12) discloses a method for creating altered refractive index zones inside a planar waveguide by using ultrashort laser pulses, wherein in one embodiment, the affected region extends through the cladding of the waveguide at an acute angle. However, Dugan does not teach or suggest that the structure exhibits controlled polarization sensitivity. In fact, Dugan is only concerned with changing the refractive index profile of the waveguide along the longitudinal axis and not creating a waveguiding structure that has controlled polarization sensitivity, in contrast to the claimed invention where the waveguiding structure exhibits controlled polarization sensitivity, and as such, it can be used in conjunction with commercial optical fibers as an optical tap. Davis (Optics Letters article), Nolte (SPIE Proceedings article) and Qiu (SPIE Proceedings article) all disclose methods for creating waveguiding structures inside various types of glass using femtosecond laser pulses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Leo Boutsikaris whose telephone number is 571-272-2308.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR


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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leo Boutsikaris, Ph.D., J.D.
Primary Patent Examiner, AU 2872
April 2, 2006


LEONIDAS BOUTSIKARIS
PRIMARY EXAMINER